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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,334	07/02/2003	Horst Wittur	VGBS-40004	3803
30593 7590 08/21/2009 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195				
EXAMINER PICO, ERIC E				
ART UNIT 3654		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/612,334

**Applicant(s)**

WITTUR ET AL.

**Examiner**

Eric Pico

**Art Unit**

3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2009.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-41 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 22-41 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 01 November 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/5508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/24/2009 has been entered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the axis of rotation of the drive sheave is perpendicular to an axis of rotation of the counter sheave claimed in claim 28 and previously raised in the Non-Final Office Action filed on 8/25/2005 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claim(s) 22, 23, 28, 36, and 37** is/are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
5. **Regarding claim 22 and 37**, the subject matter which was not described in the specification "a ratio of a diameter of the drive sheave to a nominal diameter of each cable of the plurality of carrier cables is greater than or equal to 30:1 and less than or equal to 40:1".

6. **Regarding claim 23**, the subject matter which was not described in the specification "wherein the ratio of the diameter of the drive sheave to the nominal diameter of each cable of the plurality of carrier cables is substantially 34:1."
7. **Claim(s) 28** is/are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification in no such way enables one skilled in the art to make the axis of rotation of the drive sheave perpendicular to an axis of rotation of the counter sheave.
8. **Regarding claim 36**, the subject matter which was not described in the specification "wherein a ratio of a diameter of the drive sheave to a nominal diameter of each cable of the plurality of carrier cables is substantially 30: 1."

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
10. **Claim(s) 22-30 and 35-41** is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkovitz U.S. Patent No. 3838752 in view of Aulanko et al. U.S.

Patent No. 5429211, Scholder U.S. Patent No. 5975826, and Nation U.S. Patent No. 4158283.

11. **Regarding claim 22 and 36-41**, Berkovitz discloses a gearless cable-operated elevator, the elevator comprising:
12. a cage 20;
13. a counterweight 22;
14. a carrier cable 86;
15. a drive sheave 82; and
16. a counter sheave 84;
17. wherein the cage 20 and the counterweight 22 are supported by the carrier cable 86,
18. wherein the drive sheave 82 and the counter sheave 84 are spaced apart from each other,
19. wherein the carrier cable 86 wraps at least partially around the drive sheave 82 a first time, at least partially around the counter sheave 84 a first time, at least partially around the drive sheave 82 a second time, and at least partially around the counter sheave 84 a second time, shown in Figure 6A,
20. wherein the drive sheave 82 is configured to act on the carrier cable 86 in order to move the cage 20 and the counterweight 22,
21. wherein the drive sheave 82 includes semicircular grooves,
22. wherein the semicircular grooves include undercut portions 32, and

23. wherein the undercut portions have a width to cable diameter ratio of about 0.375,
24. wherein the drive sheave 82 is configured so that the of carrier cable 86 runs in the semicircular grooves.
25. Berkovitz is silent concerning an elevator without machine room, the elevator comprising: a plurality of carrier cables; cage guide rails; counterweight guide rails; wherein the cage is guided by the cage guide rails, wherein the counterweight is guided by the counterweight guide rails, wherein each cable of the plurality of carrier cables is a steel cable, wherein each cable of the plurality of carrier cables has a nominal diameter greater than 5 mm and less than 7 mm, wherein the undercut portions have a width greater than 1 mm and less than 3 mm, wherein a ratio of a diameter of the drive sheave to a nominal diameter of each cable of the plurality of carrier cables is greater than or equal to 30:1 and less than or equal to 40:1.
26. Aulanko et al. teaches an elevator without machine room, the elevator comprising:
  27. a plurality of carrier cables 3;
  28. cage guide rails 10;
  29. counterweight guide rails 11;
  30. wherein a cage 1 is guided by the cage guide rails 10,
  31. wherein a counterweight 2 is guided by the counterweight guide rails 11,
  32. Scholder teaches wherein each cable of a plurality of carrier cables 75 is a steel cable,

33. wherein each cable of the plurality of carrier cables 75 has a nominal diameter greater than 5 mm and less than 7 mm, Column 5, Lines 56 and 57.

34. Nation teaches wherein a ratio of a diameter of the drive sheave to a nominal diameter of each cable of the plurality of carrier cables is greater than or equal to 30:1 and less than or equal to 40:1, Column 6, Lines 37-40.

35. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cage disclosed by Berkovitz with guide rails as taught by Aulanko et al. to guide the cage.

36. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the cable disclosed by Berkovitz a plurality of carrier cables being a steel cable, wherein each cable of the plurality of carrier cables has a nominal diameter greater than 5 mm and less than 7 mm as taught by Scholder to facilitate the lifting of the load.

37. Furthermore, It would have been obvious to one of ordinary in the art at the time of the invention was made to make the cable disclosed by Berkovitz a plurality of carrier cables wherein each cable of the plurality of carrier cables has a nominal diameter greater than 5 mm and less than 7 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Minor differences between the prior art and a claimed device may be a matter of design choice absent evidence to the contrary. See *In re Rice*, 341 F.2d 309, 314 (CCPA 1965). Where the difference between the claimed invention and the prior art is some range or other



variable within the claims the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990).

38. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the ratio of a diameter of the drive sheave to a nominal diameter of carrier cable disclosed by Berkovitz is greater than or equal to 30:1 and less than or equal to 40:1 as taught by Nation to decrease the diameter of the drive sheave and reduce the torque required to drive the elevator.

39. Furthermore, It would have been obvious to one of ordinary in the art at the time of the invention was made to make the ratio of a diameter of the drive sheave to a nominal diameter of carrier cable disclosed by Berkovitz greater than or equal to 30:1 and less than or equal to 40:1, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Minor differences between the prior art and a claimed device may be a matter of design choice absent evidence to the contrary. See *In re Rice*, 341 F.2d 309, 314 (CCPA 1965). Where the difference between the claimed invention and the prior art is some range or other variable within the claims the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990).

40. **Regarding claim 23**, Berkovitz is silent concerning wherein the ratio of the diameter of the drive sheave to the nominal diameter of each cable of the plurality of carrier cables is substantially 34:1.

41. Furthermore, It would have been obvious to one of ordinary in the art at the time of the invention was made to make the ratio of a diameter of the drive sheave to a nominal diameter of carrier cable disclosed by Berkovitz substantially 34:1, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Minor differences between the prior art and a claimed device may be a matter of design choice absent evidence to the contrary. See *In re Rice*, 341 F.2d 309, 314 (CCPA 1965). Where the difference between the claimed invention and the prior art is some range or other variable within the claims the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990).

42. **Regarding claim 24 and 25**, Berkovitz is silent concerning wherein the elevator is configured for cage loads less than or equal to 2,000 kg and wherein the elevator is configured for cage loads greater than or equal to 300 kg and less than or equal to 1,000 kg.

43. Aulanko et al. teaches wherein an elevator is configured for cage loads less than or equal to 2,000 kg, and

44. wherein the elevator is configured for cage loads greater than or equal to 300 kg and less than or equal to 1,000 kg, Column 6, Lines 41-45.

45. It would have been obvious to one of ordinary skill in the art at the time of the invention to make to configure the cage load disclosed by Berkovitz for cage loads less than or equal to 2,000 kg and greater than or equal to 300 kg and less than or equal to 1,000 kg as taught by Aulanko et al. to allow for a motor with a very flat construction optimizing the space within a hoistway.

46. Furthermore, It would have been obvious to one of ordinary in the art at the time of the invention was made to configure the cage load disclosed by Berkovitz for cage loads less than or equal to 2,000 kg and greater than or equal to 300 kg and less than or equal to 1,000 kg, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Minor differences between the prior art and a claimed device may be a matter of design choice absent evidence to the contrary. See *In re Rice*, 341 F.2d 309, 314 (CCPA 1965). Where the difference between the claimed invention and the prior art is some range or other variable within the claims the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990).

47. **Regarding claim 26**, Berkovitz discloses wherein an axis of rotation of the drive sheave 82 is parallel to an axis of rotation of the counter sheave 84.

48. **Regarding claim 27**, Berkovitz discloses wherein a plane in which the drive sheave 82 rotates is displaced from a plane in which the counter sheave 84 rotates.
49. **Regarding claim 29**, Berkovitz discloses wherein the elevator is configured so that the drive sheave 82 is higher than the counter sheave 84.
50. **Regarding claim 30**, Berkovitz discloses wherein a suspension ratio of the cage 20 is 1:1 or 2:1.
51. **Regarding claim 35**, Berkovitz discloses wherein the counter sheave serves as a distancing deflection sheave.
52. **Claim(s) 31-34** is/are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkovitz U.S. Patent No. 3838752 in view of Aulanko et al. U.S. Patent No. 5429211, Scholder U.S. Patent No. 5975826, and Nation U.S. Patent No. 4158283 as applied to claim 22 above, and further in view of Hollowell International Publication No. 99/43595.
53. **Regarding claim 31**, Berkovitz is silent concerning wherein the drive sheave and the counter sheave are operatively attached to the cage.
54. Hollowell teaches wherein a drive sheave 30 and a counter sheave 34 are operatively attached to a cage 16.
55. It would have been obvious to one of ordinary skill in the art at the time of the invention to operatively attach the drive sheave and the counter sheave of the drive sheave drive disclosed by Berkovitz to the cage as taught by Hollowell et al. to accommodate the elevator components within the environmental restraints of the shaft.

56. **Regarding claim 32**, Berkovitz discloses wherein a suspension ratio of the cage 20 is 1:1, 2:1, or 4:1.

57. **Regarding claim 33 and 34**, Berkovitz is silent concerning wherein the drive sheave is operatively attached to a top or bottom of the cage, and wherein the counter sheave is operatively attached to the top or bottom of the cage.

58. Hollowell teaches wherein the drive sheave is operatively attached to a top or bottom of the cage, and

59. wherein the counter sheave is operatively attached to the top or bottom of the cage, referred to in claims 2 and 3.

60. It would have been obvious to one of ordinary skill in the art at the time of the invention to operatively attach the drive sheave and the counter sheave of the drive sheave drive disclosed by Berkovitz on the top or bottom of the cage as taught by Hollowell et al. to accommodate the elevator components within the environmental restraints of the shaft.

### ***Response to Arguments***

61. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Pico whose telephone number is (571)272-5589. The examiner can normally be reached on 6:30AM - 3:00PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Nguyen can be reached on 571-272-6952. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/John Q. Nguyen/  
Supervisory Patent Examiner, Art Unit 3654

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